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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,373	06/28/2006	Adalbert Roehrig	02482/0203338-US0	7961

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EXAMINER

LIN, KUANG Y

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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01/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,373	Applicant(s) ROEHRIG ET AL.	
	Examiner Kuang Y. Lin	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support in the specification for the claimed feature of claims 19 and 20 that the securing devices permit longitudinal movement of the copper tube.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,374,903 to Sears, Jr. or US 3,730,257 to Haussner in view of US 4,299,267 to Birat et al. and further in view of US 4,167,211 to Haller.

Each of the primary references substantially shows the invention as claimed except that they do not show a copper tube mold for forming a round shape strand (claim 1, etc.), the supporting plate is connected to the copper tube mold (claim 2, etc.), and connecting ribs. However, Birat et al. show that it is conventional to use copper tube mold for casting round or polygonal shape strand and connecting the supporting plate to the copper mold tube such that to secure two parts together. It would have been obvious to use a cylinder shape tube mold for casting round shape strand if that type of strand is designated and to secure the mold tube and the supporting plate together to maintain the structural integrity in view of the prior art teaching as a whole. Further, Haller shows the use of connecting ribs between heat-exchanging tubes for maintaining the same in a fixed relationship. It would have been obvious to further provide connecting ribs between mold tube and the water jacket in the mold assembly of the primary references to further securing the mold tube and the water jacket in a fixed position in view of Haller. With respect to claims 3-5, it would have been obvious to obtain the optimal structural parameters through routine experimentation. With respect to claim 6, 8, 10-13, 16-18, it would also have

been obvious to those of ordinary skill in the continuous casting art to design a proper mold structure such that to maintain the same in structural integrity.

6. Applicant's arguments filed Dec. 21, 2007 have been fully considered but they are not persuasive.

a. Applicant in page 8, 1st paragraph of the response stated that the examiner overlooks the supporting surfaces comprising supporting and connecting ribs. However, it is noted that claim 9 presented in Sept. 19, 2005 recites that "the supporting surfaces comprise **at least one of** supporting ribs and connecting ribs". Further, although the amended claims 1 and 2 now recites that "the supporting surfaces comprise **at least** supporting ribs and connecting ribs", Haller shows that it is that it is convention to provide connecting ribs of T-profile between heat-exchanging tubes for maintaining the same in a fixed relationship. It would have been obvious further provide connecting ribs of T-profile between mold tube and the water jacket in the mold assembly of the primary references to further securing the mold tube and the water jacket in fixed position in view of Haller.

b. Applicant in page 8, 2nd paragraph of the response stated that none of the prior art reference shows supporting surfaces having curved surfaces. However, it would have obvious to provide a curved supporting surface if is the mold tube is in a curved shape.

c. Applicant further stated that none of the prior art reference show the corrosion protection layer as in claim 16. However, that feature is notorious old

(see, for example, col. 3, lines 10-15 of US 4,949,773 to Nomura et al. and col. 5, lines 65-71 of US 3,667,534 to Kanokogi et al).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan J. Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kuang Y. Lin/
Primary Examiner
Art Unit 1725

1-08-08